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December 31, 2018

Contains Confidential Business Information

Via Federal Express

IDEM Air Permits Administration
Attn: Incoming Application
100 North Senate Avenue
MC 61-53, Room 1003
Indianapolis, IN 46204-2251

Re: Cook Inc. – Ellettsville North Facility
FESOP No. 105-32055-00030
Application for Administrative Amendment

Dear Sir or Madam,

Enclosed please find an application for an administrative amendment to FESOP No. 105-32055-00030, which was issued to Cook Inc.'s Ellettsville North facility, located at 6300 North Matthews Drive, Ellettsville, IN.

Description of Proposed Change

Operations at Ellettsville North include the manufacture and sterilization of medical products. Sterilization processes include nine (9) sterilizer chambers designated as Sterilizers S1 through S9, fourteen (14) aeration rooms (hot cells HC1 through HC14), and associated emissions control equipment. Emissions from chamber exhaust back vents (CEV) from Sterilizers S-1 through S-7 are currently routed through dry bed reactors with a minimum 99% reduction efficiency. CEV emissions from Sterilizers S-8 and S-9 are currently uncontrolled, and those emissions are routed via individual dedicated exhaust stacks designated as CEV01 and CEV02.

Cook Inc. has elected to voluntarily install new emission controls for CEV emissions from Sterilizers S-8 and S-9 and is submitting this administrative amendment application to update the relevant permitting information. The new emission controls and associated equipment have already been ordered and are expected to be installed and operational by early 2019. Specifically, the new CEV emission controls for S-8 and S-9 will include three DR-490 dry bed units in parallel with a minimum reduction efficiency of 99%.

Pursuant to discussions with IDEM, because the installation and operation of these new emission controls is voluntary, and no law requires the installation of these new controls, this request is being submitted as an application for an administrative amendment.

Enclosed with this application, you will find an original and two (2) copies of the following documents:

1. A Permit Application Cover Sheet
2. Relevant Air Permit Application Forms
    a. Application Cover Sheet (COVER)
    b. Forms Checklist (CHECKLIST)
    c. Basic Source Level Information (GSD-01)
    d. Plant Layout Diagram (GSD-02)
    e. Process Flow Diagram (GSD-03)
    f. Stack/Vent Information (GSD-04)
    g. Control Equipment Summary (CE-01)
3. Attachment A – Administrative Amendment Narrative
4. Attachments B1-B4 – Proposed Revised Permit Language
5. Attachment C – Proposed Process Flow Diagram **(Confidential)**
6. Attachment D – Existing and Proposed Stack Locations **(Confidential)**
7. Attachment E – Safe Cell II DR490 & Blower Specification Sheets
8. Attachment F – Design Plan Set **(Confidential)**

Please note that **Attachments C, D, and F** are considered **Confidential Business Information** by Cook, and must be protected from disclosure under State law pursuant to 326 IAC 17.1-4-1 and I.C. 5-14-3. Cook's justification for confidential treatment is set forth below.

Justifications for Designations as CBI Under State Law

Cook requests that IDEM treat the enclosed CBI as confidential because the information is a trade secret protected from public disclosure pursuant to I.C. 5-14-3-4(b)(4).

1. *Narrative statement that the information is a "Trade Secret."*

A "trade secret" is information that "(1) derives independent economic value, actual or potential, from not being generally known to, and being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (2) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy." I.C. § 24-2-3-2. The enclosed CBI contains confidential information related to

technical processes, operational procedures, and other proprietary and confidential information of a competitive and commercial nature. This information has substantial economic value to Cook and its competitors. Moreover, the information is kept confidential by Cook. Disclosure of this information would place Cook at a competitive disadvantage.

2. *Previous confidentiality determination.*

This information has not been previously subject to a confidentiality determination.

3. *Time the material is to kept confidential.*

Cook requests that IDEM maintain the confidentiality of this information permanently or as long as allowed under applicable law.

If you have any questions regarding this administrative amendment application, please contact me by email at wgardner@taftlaw.com or by phone at 317-713-3562.

Sincerely,

[redacted]

R. William Gardner

Enclosures

cc: Matthew Stuckey, IDEM

23904561.2

Relevant Air Permit Application Forms

a. Application Cover Sheet (COVER)
b. Forms Checklist (CHECKLIST)
c. Basic Source Level Information (GSD-01)
d. Plant Layout Diagram (GSD-02)
e. Process Flow Diagram (GSD-03)
f. Stack/Vent Information (GSD-04)
g. Control Equipment Summary (CE-01)

AIR PERMIT APPLICATION COVER SHEET

State Form 50639 (R4 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of this cover sheet is to obtain the core information needed to process the air permit application. This cover sheet is required for all air permit applications submitted to IDEM, OAQ. Place this cover sheet on top of all subsequent forms and attachments that encompass your air permit application packet.
- Submit the completed air permit application packet, including all forms and attachments, to **IDEM Air Permits Administration** using the address in the upper right hand corner of this page.
- IDEM will send a bill to collect the filing fee and any other applicable fees.
- Detailed instructions for this form are available on the Air Permit Application Forms website.

FOR OFFICE USE ONLY
PERMIT NUMBER:
____ _____ – _____ – _____
DATE APPLICATION WAS RECEIVED:

1. Tax ID Number: 35-1413874

PART A: Purpose of Application

Part A identifies the purpose of this air permit application. For the purposes of this form, the term "source" refers to the plant site as a whole and NOT to individual emissions units.

2. Source / Company Name: Cook Incorporated | **3. Plant ID:** 105 — 00030

4. Billing Address: 6300 North Matthews Drive

City: Ellettsville | **State:** IN | **ZIP Code:** 47429 –

5. Permit Level: ☐ Exemption ☐ Registration ☐ SSOA ☐ MSOP ☒ FESOP ☐ TVOP ☐ PBR

6. Application Summary: *Check all that apply. Multiple permit numbers may be assigned as needed based on the choices selected below.*

☐ Initial Permit
☐ Renewal of Operating Permit
☐ Asphalt General Permit
☐ Review Request
☐ Revocation of Operating Permit
☐ Alternate Emission Factor Request
☐ Interim Approval
☐ Relocation of Portable Source
☐ Acid Deposition (Phase II)
☐ Site Closure
☐ Emission Reduction Credit Registry

☐ Transition (between permit levels) *From:* *To:*

☒ Administrative Amendment:
☐ *Company Name Change*
☐ *Change of Responsible Official*
☐ *Correction to Non-Technical Information*
☐ *Notice Only Change*
☒ *Other (specify):* Voluntary Installation of Additional Emissions Control Equipment

☐ Modification:
☐ *New Emission Unit or Control Device*
☐ *Modified Emission Unit or Control Device*
☐ *New Applicable Permit Requirement*
☐ *Change to Applicability of a Permit Requirement*
☐ *Prevention of Significant Deterioration*
☐ *Emission Offset*
☐ *MACT Preconstruction Review*
☐ *Minor Source Modification*
☐ *Significant Source Modification*
☐ *Minor Permit Modification*
☐ *Significant Permit Modification*
☐ *Other (specify):*

7. Is this an application for an initial construction and/or operating permit for a **"Greenfield" Source**? ☐ Yes ☒ No

8. Is this an application for construction of a new emissions unit at an **Existing Source**? ☐ Yes ☒ No

Continued on Next Page

PART B: Pre-Application Meeting

Part B specifies whether a meeting was held or is being requested to discuss the permit application.

9. Was a meeting held between the company and IDEM prior to submitting this application to discuss the details of the project?

☒ No ☐ Yes: *Date:*

10. Would you like to schedule a meeting with IDEM management and your permit writer to discuss the details of this project?

☒ No ☐ Yes: *Proposed Date for Meeting:*

PART C: Confidential Business Information

Part C identifies permit applications that require special care to ensure that confidential business information is kept separate from the public file.

Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in the Indiana Administrative Code (IAC). To ensure that your information remains confidential, refer to the IDEM, OAQ information regarding submittal of confidential business information. For more information on confidentiality for certain types of business information, please review IDEM's Nonrule Policy Document Air-031-NPD regarding Emission Data.

11. Is any of the information contained within this application being claimed as **Confidential Business Information?**

☐ No ☒ Yes

PART D: Certification Of Truth, Accuracy, and Completeness

Part D is the official certification that the information contained within the air permit application packet is truthful, accurate, and complete. Any air permit application packet that we receive without a signed certification will be deemed incomplete and may result in denial of the permit.

For a Part 70 Operating Permit (TVOP) or a Source Specific Operating Agreement (SSOA), a "responsible official" as defined in 326 IAC 2-7-1(34) must certify the air permit application. For all other applicants, this person is an "authorized Individual" as defined in 326 IAC 2-1.1-1(1).

☒ *I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate, and complete.*

Derek Voskuil
Name *(typed)*

[redacted]
Signature

General Manager & Vice President
Title

12/31/18
Date

OAQ AIR PERMIT APPLICATION – FORMS CHECKLIST

State Form 51607 (R5 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of this checklist is to help the applicant and IDEM, OAQ ensure that the air permit application packet is administratively complete. This checklist is a required form.
- Check the appropriate box indicating whether each application form is applicable for the current permit application. The source must submit only those forms pertinent to the current permit application.
- Place this checklist between the cover sheet and all subsequent forms and attachments that encompass your air permit application packet.

Part A: General Source Data

Applicable?	Form ID	Title of Form	State Form Number	When should this form be included in my application packet?
☒ Y ☐ N	COVER	Application Cover Sheet	50639	Include for every application, modification, and renewal, including source specific operating agreements (SSOA).
☒ Y ☐ N	CHECKLIST	Forms Checklist	51607	Include for every application, modification, and renewal, including SSOA.
☒ Y ☐ N	GSD-01	Basic Source Level Information	50640	Include for every application, modification, and renewal, including SSOA.
☒ Y ☐ N	GSD-02	Plant Layout Diagram	51605	Include for every new source application, and modification.
☒ Y ☐ N	GSD-03	Process Flow Diagram	51599	Include one for every process covered by the application.
☒ Y ☐ N	GSD-04	Stack / Vent Information	51606	Include for every new source application, and modification.
☐ Y ☒ N	GSD-05	Emissions Unit Information	51610	Include for every process covered by the application.
☐ Y ☒ N	GSD-06	Particulate Emissions Summary	51612	Include if the process has particulate emissions (PM).
☐ Y ☒ N	GSD-07	Criteria Pollutant Emissions Summary	51602	Include if the process has criteria pollutant emissions.
☐ Y ☒ N	GSD-08	HAP Emissions Summary	51604	Include if the process has hazardous air pollutant emissions (HAP).
☐ Y ☒ N	GSD-09	Summary of Additional Information	51611	Include if the additional information is included.
☐ Y ☒ N	GSD-10	Insignificant Activities	51596	Include if there are unpermitted insignificant activities.
☐ Y ☒ N	GSD-11	Alternative Operating Scenario	51601	Include if an AOS is requested.
☐ Y ☒ N	GSD-12	Affidavit of Nonapplicability	51600	Include if the standard notification requirements do not apply.
☐ Y ☒ N	GSD-13	Affidavit of Applicability	51603	Include if the standard notification requirements apply.
☐ Y ☒ N	GSD-14	Owners and Occupants Notified	51609	Include if the standard notification requirements apply.
☐ Y ☒ N	GSD-15	Government Officials Notified	51608	Include if the standard notification requirements apply.
☐ Y ☒ N	RENEWAL	Renewal Checklist	51755	Include with every operating permit renewal packet.

Continued on Next Page

Part B: Process Information				
Applicable?	**Form ID**	**Title of Form**	**State Form Number**	**When should this form be included in my application packet?**
☐ Y ☒ N	AEF-01	Alternate Emission Factor Request	51860	Submit if you are requesting to use an emission factor other than AP-42.
☐ Y ☒ N	PI-01	Miscellaneous Processes	52534	Include one form for each process for which there is not a specific PI form.
☐ Y ☒ N	PI-02A	Combustion Unit Summary	52535	Include one form to summarize all combustion units *(unless SSOA).*
☐ Y ☒ N	PI-02B	*Combustion:* Boilers, Process Heaters, & Furnaces	52536	Include one form for each boiler, process heater, or furnace *(unless SSOA).*
☐ Y ☒ N	PI-02C	*Combustion:* Turbines & Internal Combustion Engines	52537	Include one form for each turbine or internal combustion engine *(unless SSOA).*
☐ Y ☒ N	PI-02D	*Combustion:* Incinerators & Combustors	52538	Include one form for each incinerator or combustor *(unless SSOA).*
☐ Y ☒ N	PI-02E	*Combustion:* Kilns	52539	Include one form for each kiln *(unless SSOA).*
☐ Y ☒ N	PI-02F	*Combustion:* Fuel Use	52540	Include one form for each combustion unit *(unless SSOA).*
☐ Y ☒ N	PI-02G	*Combustion:* Emission Factors	52541	Include one form for each combustion unit *(unless SSOA).*
☐ Y ☒ N	PI-02H	*Combustion:* Federal Rule Applicability	52542	Include one form for each combustion unit *(unless SSOA).*
☐ Y ☒ N	PI-03	Storage and Handling of Bulk Material	52543	Include if the process involves the storage and handling of bulk materials.
☐ Y ☒ N	PI-04	Asphalt Plants	52544	Include for each asphalt plant process (*unless general permit*).
☐ Y ☒ N	PI-05	Brick / Clay Products	52545	Include for each brick and/or clay products process.
☐ Y ☒ N	PI-06	Electroplating Operations	52546	Include for each electroplating process.
☐ Y ☒ N	PI-07	Welding Operations	52547	Include for each welding process.
☐ Y ☒ N	PI-08	Concrete Batchers	52548	Include for each concrete batcher *(unless SSOA).*
☐ Y ☒ N	PI-09	Degreasing	52549	Include for each degreasing process *(unless SSOA).*
☐ Y ☒ N	PI-10	Dry Cleaners	52550	Include for each dry cleaning process
☐ Y ☒ N	PI-11	Foundry Operations	52551	Include for each foundry process
☐ Y ☒ N	PI-12	Grain Elevators	52552	Include for each grain elevator *(unless SSOA).*
☐ Y ☒ N	PI-13	Lime Manufacturing	52553	Include for each lime manufacturing process.
☐ Y ☒ N	PI-14	Liquid Organic Compound Storage	52554 (doc)	Include if the process involves the storage of liquid organic compounds.
☐ Y ☒ N	PI-14ALT	Alternate version of Liquid Organic Compound Storage	52555 (xls)	Include if the process involves the storage of liquid organic compounds and there are several storage vessels.
☐ Y ☒ N	PI-15	Portland Cement Manufacturing	52556	Include for each Portland cement manufacturing process.
☐ Y ☒ N	PI-16	Reinforced Plastics & Composites	52557	Include for each reinforced plastics and composites process.

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Part B: Process Information				
Applicable?	**Form ID**	**Title of Form**	**State Form Number**	**When should this form be included in my application packet?**
☐ Y ☒ N	PI-17	Blasting Operations	52558	Include for each blasting process *(unless SSOA).*
☐ Y ☒ N	PI-18	Mineral Processing	52559	Include if the process involves mineral processing *(unless SSOA)*.
☐ Y ☒ N	PI-19	Surface Coating & Printing Operations	52560	Include for each surface coating or printing process *(unless SSOA).*
☐ Y ☒ N	PI-20	Woodworking / Plastic Machining	52561	Include for each woodworking or plastic machining process *(unless SSOA).*
☐ Y ☒ N	PI-21	Site Remediation	52570	Include for each soil remediation process.
☐ Y ☒ N	PI-22	Ethanol Plants ***(Under Development)***	None	Include for each ethanol plant.

Part C: Control Equipment				
Applicable?	**Form ID**	**Title of Form**	**State Form Number**	**When should this form be included in my application packet?**
☒ Y ☐ N	CE-01	Control Equipment Summary	51904	Include if add-on control equipment will be used for the process.
☐ Y ☒ N	CE-02	Particulates – Baghouse / Fabric Filter	51953	Include for each baghouse or fabric filter.
☐ Y ☒ N	CE-03	Particulates – Cyclone	52620	Include for each cyclone.
☐ Y ☒ N	CE-04	Particulates – Electrostatic Precipitator	52621	Include for each electrostatic precipitator.
☐ Y ☒ N	CE-05	Particulates – Wet Collector / Scrubber / Absorber	52622	Include for each wet collector, scrubber, or absorber.
☐ Y ☒ N	CE-06	Organics – Flare / Oxidizer / Incinerator	52623	Include for each flare, oxidizer, or incinerator.
☐ Y ☒ N	CE-07	Organics – Adsorbers	52624	Include for each adsorber.
☐ Y ☒ N	CE-08	Organics – Condenser	52625	Include for each condenser.
☐ Y ☒ N	CE-09	Reduction Technology	52626	Include for each control device using reduction technology (e.g., SCR, SNCR).
☐ Y ☒ N	CE-10	Miscellaneous Control Equipment	52436	Include one form for equipment for which there is not a specific CE form.

Continued on Next Page

Part D: Compliance Determination for Part 70 Sources				
Applicable?	**Form ID**	**Title of Form**	**State Form Number**	**When should this form be included in my application packet?**
☐ Y ☒ N	CD-01	Emissions Unit Compliance Status	51861	Include for every Title V application, including modifications.
☐ Y ☒ N	CD-02	Compliance Plan by Applicable Requirement	51862	Include for every Title V application, including modifications.
☐ Y ☒ N	CD-03	Compliance Plan by Emissions Unit	51863	Include for every Title V application, including modifications.
☐ Y ☒ N	CD-04	Compliance Schedule and Certification	51864	Include for every Title V application, including modifications and renewal.
☐ Y ☒ N	FED-03	Compliance Assurance Monitoring	53377	Include for every Title V application, including modifications.

Part E: Best Available Control Technology				
Applicable?	**Form ID**	**Title of Form**	**State Form Number**	**When should this form be included in my application packet?**
☐ Y ☒ N	BACT-01	Analysis of Best Available Control Technology	None	Include for every BACT application.
☐ Y ☒ N	BACT-01a	Background Search: Existing BACT Determinations	None	Include for every BACT application.
☐ Y ☒ N	BACT-01b	Cost/Economic Impact Analysis	None	Include for every BACT application.
☐ Y ☒ N	BACT-02	Summary of Best Available Control Technology	None	Include for every BACT application.
☐ Y ☒ N	PSD / EO-01	PSD / Emission Offset Checklist	None	Include for every PSD application and every NSR application that requires emission offsets.

Part F: Emission Credit Registry				
Applicable?	**Form ID**	**Title of Form**	**State Form Number**	**When should this form be included in my application packet?**
☐ Y ☒ N	EC-01	Generation of Emission Credits	51783	Include if the modification results in emission reductions.
☐ Y ☒ N	EC-02	Transfer of Emission Credits	51784	Submit whenever registered emission credits are transferred.
☐ Y ☒ N	EC-03	Use of Emission Credits	51785	Include if the modification requires the use of emission credits for offsets.
☐ Y ☒ N	EC-04	Emission Credit Request	51906	Submit if you are looking for emission credits for offsets.

Continued on Next Page

Part G: Plantwide Applicability Limits				
Applicable?	**Form ID**	**Title of Form**	**State Form Number**	**When should this form be included in my application packet?**
☐ Y ☒ N	PAL-01	Actuals Plantwide Applicability Limit	52451	Include if the modification results in emission reductions.
☐ Y ☒ N	PAL-02	Revised Plantwide Applicability Limit	52452	Submit whenever registered emission credits are transferred.
☐ Y ☒ N	PAL-03	Plantwide Applicability Limit Renewal	52453	Include if the modification requires the use of emission credits for offsets.
☐ Y ☒ N	PAL-04	Request for Termination of Plantwide Applicability Limit	52454	Submit if you are looking for emission credits for offsets.

Part H: Air Toxics				
Applicable?	**Form ID**	**Title of Form**	**State Form Number**	**When should this form be included in my application packet?**
☐ Y ☒ N	FED-01	Summary of Federal Requirements – NSPS & NESHAP	53512	Include for each 40 CFR Part 60 NSPS, 40 CFR Part 61 NESHAP, and 40 CFR Part 63 NESHAP applicable to the process.
☐ Y ☒ N	FED-02	MACT Pre-Construction Review	51905	Include if constructing or modifying a process subject to a Part 63 NESHAP.
☐ Y ☒ N	No Form ID	MACT Initial Notification	None	This form is available on the U.S. EPA website. Completed notifications should be submitted to the IDEM Compliance Branch.

Part I: Special Permits				
Applicable?	**Form ID**	**Title of Form**	**State Form Number**	**When should this form be included in my application packet?**
☐ Y ☒ N	INTERIM	Interim Approval	None	Submit if you are applying for interim operating approval.
☐ Y ☒ N	ASPHALT	Asphalt General Permit	None	Submit if you are applying for or modifying an asphalt plant general permit.
☐ Y ☒ N	NOXBTP	NO_X Budget Permit	None	Submit if you are a power plant or if you have opted in to the NO_X budget trading program.
☐ Y ☒ N	ACIDRAIN	Phase 2 Acid Rain Permit	None	Submit if you are applying for, modifying, or renewing a Phase 2 Acid Rain permit.

Continued on Next Page

Part J: Source Specific Operating Agreements (SSOA)				
Applicable?	**Form ID**	**Title of Form**	**State Form Number**	**When should this form be included in my application packet?**
☐ Y ☒ N	OA-01	Summary of Application and Existing Agreements	53438	Submit if you are applying for or modifying a Source Specific Operating Agreement.
☐ Y ☒ N	OA-02	Industrial / Commercial Surface Coating Operations -OR- Graphic Arts Operations (326 IAC 2-9-2.5)	53439	Submit if you are applying for or modifying a SSOA for industrial or commercial surface coating operations not subject to 326 IAC 8-2; or graphic arts operations not subject to 326 IAC 8-5-5.
☐ Y ☒ N	OA-03	Surface Coating or Graphic Arts Operations (326 IAC 2-9-3)	53440	Submit if you are applying for or modifying a SSOA for surface coating or graphic arts operations.
☐ Y ☐ N	OA-04	Woodworking Operations (326 IAC 2-9-4)	53441	Submit if you are applying for or modifying a SSOA for woodworking operations.
☐ Y ☒ N	OA-05	Abrasive Cleaning Operations (326 IAC 2-9-5)	53442	Submit if you are applying for or modifying a SSOA for abrasive cleaning operations.
☐ Y ☒ N	OA-06	Grain Elevators (326 IAC 2-9-6)	53443	Submit if you are applying for or modifying a SSOA for grain elevators.
☐ Y ☒ N	OA-07	Sand And Gravel Plants (326 IAC 2-9-7)	53444	Submit if you are applying for or modifying a SSOA for sand and gravel plants.
☐ Y ☒ N	OA-08	Crushed Stone Processing Plants (326 IAC 2-9-8)	53445	Submit if you are applying for or modifying a SSOA for crushed stone processing plants.
☐ Y ☒ N	OA-09	Ready-Mix Concrete Batch Plants (326 IAC 2-9-9)	53446	Submit if you are applying for or modifying a SSOA for ready-mix concrete batch plants.
☐ Y ☒ N	OA-10	Coal Mines And Coal Preparation Plants (326 IAC 2-9-10)	53447	Submit if you are applying for or modifying a SSOA for coal mines and coal preparation plants.
☐ Y ☒ N	OA-11	Automobile Refinishing Operations (326 IAC 2-9-11)	53448	Submit if you are applying for or modifying a SSOA for automobile refinishing operations.
☐ Y ☒ N	OA-12	Degreasing Operations (326 IAC 2-9-12)	53449	Submit if you are applying for or modifying a SSOA for degreasing operations.
☐ Y ☒ N	OA-13	External Combustion Sources (326 IAC 2-9-13)	53450	Submit if you are applying for or modifying a SSOA for external combustion sources.
☐ Y ☒ N	OA-14	Internal Combustion Sources (326 IAC 2-9-14)	53451	Submit if you are applying for or modifying a SSOA for internal combustion sources.

OAQ GENERAL SOURCE DATA APPLICATION
GSD-01: Basic Source Level Information

State Form 50640 (R5 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of GSD-01 is to provide essential information about the entire source of air pollutant emissions. GSD-01 is a required form.
- Detailed instructions for this form are available on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

PART A: Source / Company Location Information

1. Source / Company Name: Cook Incorporated

2. Plant ID: 105 – 00030

3. Location Address: 6300 North Matthews Drive

City: Ellettsville | **State**: IN | **ZIP Code**: 47429 –

4. County Name:

5. Township Name:

6. Geographic Coordinates:

Latitude: 39º 14' 38" | **Longitude**: 86º 37' 05"

7. Universal Transferal Mercadum Coordinates *(if known)*:

Zone: | **Horizontal**: | **Vertical**:

8. Adjacent States: Is the source located within 50 miles of an adjacent state?

☒ No ☐ Yes – *Indicate Adjacent State(s):* ☐ Illinois (IL) ☐ Michigan (MI) ☐ Ohio (OH) ☐ Kentucky (KY)

9. Attainment Area Designation: Is the source located within a non-attainment area for any of the criteria air pollutants?

☒ No ☐ Yes – *Indicate Nonattainment Pollutant(s):* ☐ CO ☐ Pb ☐ NO_x ☐ O_3 ☐ PM ☐ PM_{10} ☐ $PM_{2.5}$ ☐ SO_2

10. Portable / Stationary: Is this a portable or stationary source? ☐ Portable ☒ Stationary

PART B: Source Summary

11. Company Internet Address *(optional)*:

12. Company Name History: Has this source operated under any other name(s)?

☒ No ☐ Yes – *Provide information regarding past company names in Part I, Company Name History.*

13. Portable Source Location History: Will the location of the portable source be changing in the near future?

☒ Not Applicable ☐ No ☐ Yes – *Complete Part J, Portable Source Location History, and Part K, Request to Change Location of Portable Source.*

14. Existing Approvals: Have any exemptions, registrations, or permits been issued to this source?

☐ No ☒ Yes – *List these permits and their corresponding emissions units in Part M, Existing Approvals.*

15. Unpermitted Emissions Units: Does this source have any unpermitted emissions units?

☒ No ☐ Yes – *List all unpermitted emissions units in Part N, Unpermitted Emissions Units.*

16. New Source Review: Is this source proposing to construct or modify any emissions units?

☒ No ☐ Yes – *List all proposed new construction in Part O, New or Modified Emissions Units.*

17. Risk Management Plan: Has this source submitted a Risk Management Plan?

☒ Not Required ☐ No ☐ Yes → Date submitted: EPA Facility Identifier: – –

Continued on Next Page

PART C: Source Contact Information

IDEM will send the original, signed permit decision to the person identified in this section. This person MUST be an employee of the permitted source.

18. Name of Source Contact Person: Shawn Adams

19. Title *(optional)*:

20. Mailing Address: Cook Incorporated, P.O. Box 489

City: Bloomington	**State**: IN	**ZIP Code**: 47402 – 0489

21. Electronic Mail Address *(optional)*: shawn.adams@cookmedical.com

22. Telephone Number: (812) 339 – 2235	**23. Facsimile Number** *(optional)*: ( ) –

PART D: Authorized Individual/Responsible Official Information

IDEM will send a copy of the permit decision to the person indicated in this section, if the Authorized Individual or Responsible Official is different from the Source Contact specified in Part C.

24. Name of Authorized Individual or Responsible Official: Derek Voskuil

25. Title: General Manager & Vice President

26. Mailing Address: Cook Incorporated, P.O. Box 489

City: Bloomington	**State**: IN	**ZIP Code**: 47402 – 0489

27. Telephone Number: (812) 339 – 2235	**28. Facsimile Number** *(optional)*: ( ) –

29. Request to Change the Authorized Individual or Responsible Official: Is the source officially requesting to change the person designated as the Authorized Individual or Responsible Official in the official documents issued by IDEM, OAQ? *The permit may list the title of the Authorized Individual or Responsible Official in lieu of a specific name.*

☒ No ☐ Yes – ***Change Responsible Official to**:* Derek Voskuil, General Manager & Vice President

PART E: Owner Information

30. Company Name of Owner: Cook Incorporated

31. Name of Owner Contact Person: Derek Voskuil

32. Mailing Address: P.O. Box 489

City: Bloomington	**State**: IN	**ZIP Code**: 47402 – 0489

33. Telephone Number: (812) 339 – 2235	**34. Facsimile Number** *(optional)*: ( ) –

34. Operator: Does the "Owner" company also operate the source to which this application applies?

☐ No – *Proceed to Part F below.*	☒ Yes – *Enter "SAME AS OWNER" on line 35 and proceed to Part G below.*

PART F: Operator Information

35. Company Name of Operator: SAME AS OWNER

36. Name of Operator Contact Person:

37. Mailing Address:

City:	**State**:	**ZIP Code**: –

38. Telephone Number: ( ) –	**39. Facsimile Number** *(optional)*: ( ) –

Continued on Next Page

PART G: Agent Information

40. Company Name of Agent: Atlantic Design Engineers, Inc.

41. Type of Agent: ☒ Environmental Consultant ☐ Attorney ☐ Other (specify):

42. Name of Agent Contact Person: Simon B. Thomas

43. Mailing Address: P.O. Box 1051

City: Sandwich	**State**: MA	**ZIP Code**: 02563 –

44. Electronic Mail Address *(optional)*: sthomas@atlanticcompanies.com

45. Telephone Number: (508) 888 – 9282	**46. Facsimile Number** *(optional)*: (508) 888 – 5859

47. Request for Follow-up: Does the "Agent" wish to receive a copy of the preliminary findings during the public notice period (if applicable) and a copy of the final determination? ☐ No ☒ Yes

PART H: Local Library Information

48. Date application packet was filed with the local library: N/A

49. Name of Library: Monroe County Library

50. Name of Librarian *(optional)*: Branch Manager - Chris Hosler

51. Mailing Address: 600 West Temperance

City: Ellettsville	**State**: IN	**ZIP Code**: 47429 –

52. Internet Address *(optional)*: www.monroe.lib.in.us

53. Electronic Mail Address *(optional)*: chosler@monroe.lib.in.us

54. Telephone Number: (812) 876 – 1272	**55. Facsimile Number** *(optional)*: ( ) –

PART I: Company Name History *(if applicable)*

Complete this section only if the source has previously operated under a legal name that is different from the name listed above in Section A.

56. Legal Name of Company	**57. Dates of Use**
	to
	to
	to
	to
	to
	to
	to
	to
	to
	to

58. Company Name Change Request: Is the source officially requesting to change the legal name that will be printed on all official documents issued by IDEM, OAQ?

☒ No ☐ Yes – ***Change Company Name to**:*

Continued on Next Page

PART J: Portable Source Location History *(if applicable)*

Complete this section only if the source is portable and the location has changed since the previous permit was issued. The current location of the source should be listed in Section A.

59. Plant ID	60. Location of the Portable Source	61. Dates at this Location
–		to
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–		to
–		to
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–		to

PART K: Request to Change Location of Portable Source *(if applicable)*

Complete this section to request a change of location for a portable source.

62. Current Location:

Address:

City: **State**: **ZIP Code**: –

County Name:

63. New Location:

Address:

City: **State**: **ZIP Code**: –

County Name:

Continued on Next Page

PART L: Source Process Description

Complete this section to summarize the main processes at the source.

64. Process Description	65. Products	66. SIC Code	67. NAICS Code
Manufacture of Medical Devices	Medical Devices		339112, 339113

PART M: Existing Approvals *(if applicable)*

Complete this section to summarize the approvals issued to the source since issuance of the main operating permit.

68. Permit ID	69. Emissions Unit IDs	70. Expiration Date
	Significant Permit Revision 105-29042-00030	8/24/2019
	Interim Significant Permit Revision 105-32055i-00030	8/24/2019
	Significant Permit Revision 105-32055-00030	8/24/2019

PART N: Unpermitted Emissions Units *(if applicable)*

Complete this section only if the source has emission units that are not listed in any permit issued by IDEM, OAQ.

71. Emissions Unit ID	72. Type of Emissions Unit	73. Actual Dates		
		Began Construction	Completed Construction	Began Operation

PART O: New or Modified Emissions Units *(if applicable)*

Complete this section only if the source is proposing to add new emission units or modify existing emission units.

74. Emissions Unit ID	75. NEW	76. MOD	77. Type of Emissions Unit	78. Estimated Dates		
				Begin Construction	Complete Construction	Begin Operation

OAQ GENERAL SOURCE DATA APPLICATION
GSD-02: Plant Layout Diagram

State Form 51605 (R3 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of GSD-02 is to provide a diagram of the entire plant site. This form and a Plant Layout diagram are required for all air permit applications. If you do not provide the necessary information, applicable to your source, the application process may be stopped.
- IDEM, OAQ has provided detailed instructions for this form and an example of a basic plant layout diagram on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

Part A: Basic Plant Layout

Part A provides IDEM, OAQ with the appropriate information about all buildings and access-limiting features in and around the plant site. **Please use this table as a checklist.** You must provide scaled drawings, with the actual scale shown. All dimensions and units must be clearly indicated with a brief explanation of what is being shown. Include the following (*All measurements should be given in feet*.):

1.	☒ Building Location and Dimensions				
2.	☒ Property Lines and Access-Limiting Features				
3.	☐ Surrounding Building Location and Dimensions				
4.	☒ Distances to Property Lines and Access-Limiting Features				
5.	☒ UTM Location Coordinates	**6.**	☒ Compass (pointing North)	**7.**	☒ Scale

Part B: Stack Information

Part B provides IDEM, OAQ with the appropriate information about all stacks, roof monitors, control devices, and process vents at the plant site. **Please use this table as a checklist.** You must show the location of all applicable emission points and include all relevant stack and emissions unit identification numbers for each. In addition, you will need to identify each of these emission points under "Stack Identification" on form GSD-04, Stack/Vent Information. Include the following (*All measurements should be in feet*.):

8.	☒ Exhaust Stacks			
9.	☐ Process Vents			
10.	☐ Roof Monitors	☒ *No Roof Monitors*		
11.	☒ Control Devices	☐ *No Control Devices*		
12.	☐ Interior Vents	☒ *No Interior Vents*	☐ Doors and Windows *(for processes vented inside a building)*	

Part C: Roadway Information

Part C provides IDEM, OAQ with the appropriate information about the roadways in and around the plant site. **Please use this table as a checklist.** Include the following (*All measurements should be in feet*.):

13.	☒ Adjacent Roadways	☒ Interior Roadways
14.	☐ Roadway Surface Description (gravel, dirt, paved, etc.)	
15.	☐ Number of Lanes	

Continued on Next Page

Part D: Source Building Information

This table provides detailed information about each building at the plant site that is part of the source. If additional space is needed, you may make a copy of this table. (*All measurements should be given in feet*.)

16. Building ID	17. Building Description	18. Building Dimensions			19. Distance & direction to the nearest property line or access limiting feature (feet & compass coordinate)	20. Distance & direction to the nearest residence (feet & compass coordinate)
		Length (feet)	Width (feet)	Height (feet)		
Existing	Existing Medical Device Manufacturing	470.00	280.00	36.00	65.00 165	260.00 340

Continued on Next Page

Part E: Surrounding Building / Residence Information

This table provides detailed information about each building or residence surrounding the plant site. If additional space is needed, you may make a copy of this table. (*All measurements should be given in feet*.)

21. Surrounding Building / Residence Description	22. Surrounding Building / Residence Property Dimensions			23. Distance & direction to the nearest property line or access limiting feature (feet & compass coordinate)	24. Building ID of nearest building on the plant site	25. Distance & direction to the nearest building on the plant site (feet & compass coordinate)
	Length (feet)	Width (feet)	Height (feet)			
Existing Conditions						

Continued on Next Page

Part F: Plant Layout Diagram

This space provides a place for a hand drawn plant layout diagram. It is **optional** to use this space to create your plant layout, but you must include the diagram with your application. If you choose to submit the plant layout in a different format, state "plant layout attached" in the space provided, and submit the information with your completed application. IDEM, OAQ has provided an example of a basic plant layout diagram on the Air Permit Applications Forms website.

OAQ GENERAL SOURCE DATA APPLICATION
GSD-03: Process Flow Diagram

State Form 51599 (R3 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of GSD-03 is to provide a checklist for identifying the information to be included on each Process Flow diagram.
- Complete this form and submit a process flow diagram for each process included in your air permit application.
- IDEM, OAQ has provided detailed instructions for this form and an example of a basic process flow diagram on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

Part A: Process Flow Diagram

Part A provides basic information to understanding the nature of the process. Please use this table as a checklist to indicate that you have included the following items on your process flow diagram (*All throughputs should be given in pounds per hour*.):

1. ☒ **Process Description:** Cook, Incorporated (Cook) is a manufacturer of medical devices. Prior to distribution, Cook sterilizes finished products at its Ellettsville, Indiana facility using ethylene oxide in a low temperature process. Cook currently operates nine (9) ethylene ethylene oxide (EO) sterilization chambers using pure EO as sterilant gas. Gases from all sterilization chambers are evacuated by a dedicated, recirculating oil, liquid ring, vacuum pump to a sterilizer wet acid scrubber for treatment before discharge to the atmosphere. Cook is proposing to add three (3) dry bed recon units to the existing treatment systems to control chamber exhaust vent emissions (CEV) from Sterilizers S-8 and S-9. The single dry bed for Sterilizers S1-S7 CEVs will remain independent.

2. ☒ Process Equipment	3. ☒ Raw Material Input	4. ☒ Process Throughput

5. ☐ Additions ☐ Deletions ☒ Modifications

Use the space below to briefly explain the impacts of the additional equipment, the reason for removing any equipment, and/or the reason for the proposed modification. (*If additional space is needed, please attach a separate sheet with the information and indicate in the space below that additional information is attached.*)

Cook is planning to voluntarily add three (3) dry bed units to control chamber exhaust vent (back vent) emissions from Sterilizers S-8 and S-9.

Part B: Process Operation Schedule

Part B indicates the actual (or estimated actual) hours of operation for the process.

6. ☒ Process Operation Schedule 24 Hours per Day 5 Days per Week 52 Weeks Per Year

7. **Scheduled Downtime:** Use the space below to include as much information as is known about scheduled periods of downtime for this process. (*If additional space is needed, please attach a separate sheet with the information and indicate in the space below that additional information is attached.*)

Part C: Emissions Point Information

Continued on Next Page

Part C provides information about each potential outlet of air pollutant emissions to the atmosphere. Please use this table as a checklist to indicate that you have included the following items on your process flow diagram (*All throughputs should be given in pounds per hour*.):
8. ☒ Stack / Vent Information
9. ☒ Pollutants Emitted
10. ☒ Air Pollution Control

Continued on Next Page

Part D: Process Flow Diagram

This space provides a place for a hand drawn process flow diagram. It is **optional** to use this space to create your process flow diagram, but you must include the diagram with your application. If you choose to submit the process flow diagram in a different format, state "process flow diagram attached" in the space provided, and submit the information with your completed application. IDEM, OAQ has provided an example of a basic process flow diagram on the Air Permit Applications Forms website.

OAQ GENERAL SOURCE DATA APPLICATION
GSD-04: Stack / Vent Information

State Form 51606 (R3 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of this form is to provide basic information about each stack or vent that has the potential to emit air pollutants. If you do not provide enough information to adequately describe each process vent and/or stack, the application process may be stopped. This form is required for all air permit applications.
- Detailed instructions for this form are available online on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

Stack / Vent Information

This table provides detailed information about each stack or vent through which air pollutants could be released into the atmosphere. If an air stream is vented inside a building, the vent does not need to be listed on this form. If additional space is needed, you may make a copy of this form.

1. Stack / Vent ID	2. Type (V H W O)	3. Shape (C R O)	4. Outlet Dimensions (feet)	5. Height (feet)	6. Maximum Outlet Flow Rate (acfm)	7. Outlet Gas Temperature (Degrees F)	8. Related Stacks / Vents (B P O)
PS01	V	C	0.50	44.00	270.00	77.0	
HV01	V	C	2.00	36.00	4000.00	77.0	
HV02	V	C	2.00	32.00	4000.00	77.0	
SV01	V	R	1.00	36.00	1800.00	77.0	
SV02 (NEW)	V	R	2.00	36.00	6000.00	77.0	

OAQ CONTROL EQUIPMENT APPLICATION
CE-01: Control Equipment Summary

State Form 51904 (R3 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of CE-01 is to summarize all of the equipment used to control emissions. This is a required form.
- Detailed instructions for this form are available on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for any one to inspect and photocopy.

Summary of Control Equipment

This table summarizes all of the equipment used to control air pollutant emissions. The identification numbers listed on this form should correspond to the emissions unit identified on the Plant Layout diagram and Process Flow diagram.

1. Control Equipment ID	2. Control Equipment Description	3. Pollutant Controlled	4. Emission Unit ID	5. Stack / Vent ID	6. Applicable Rule
Primary Scrubber	Primary Scrubber removes ethylene oxide from sterilizer when sterilization cycle is complete	VOC (ethylene oxide)	S1-S9	PS01	326 IAC 2-8-4
S1-S7 Chamber Exhaust Vent	Exhausts residual ethylene oxide when sterilizer door is opened to remove product	VOC (ethylene oxide)	S1-S7	SV01	326 IAC 2-8-4
S8-S9 Chamber Exhaust Vent	Exhausts residual ethylene oxide when sterilizer door is opened to remove product	VOC (ethylene oxide)	S8-S9	SV02	326 IAC 2-8-4
Hot Cells 1-14	Aeration chambers where palletized product is degassed after removal from the sterilizers	VOC (ethylene oxide)	S1-S9	HV01	326 IAC 2-8-4
Hot Cell Pre-scrubber	Removes ethylene oxide from Hot Cells prior to further removal in the Hot Cell Reactors	VOC (ethylene oxide)	Hot Cells 1-14	HV01	326 IAC 2-8-4
Hot Cell Reactors A, B, & C	Final removal of ethylene oxide gasses from the Hot Cells prior to atmosphere exhaust	VOC (ethylene oxide)	Hot Cells 1-14, Hot Cell Pre-scrubber	HV01	326 IAC 2-8-4

Attachment A

Administrative Amendment Narrative

I. CURRENT EMISSIONS SOURCES – ELLETTSVILLE NORTH

The Ellettsville North sterilization process utilizes a combination of wet acid scrubbing and chemisorption (dry bed reaction) to control ethylene oxide emissions from the existing nine (9) sterilizers and fourteen (14) aeration rooms (cells). The current emissions control system consists of two (2) wet acid scrubbers and four (4) dry bed reactors manufactured by Advanced Air Technologies of Corunna, MI. The emissions control equipment is grouped into three (3) separate control systems as follows:

Sterilization Chamber Vent (SCV) exhausts are controlled by a single wet acid scrubber (designated Sterilizer Scrubber). This scrubber has a minimum control (removal) efficiency of 99% and has a rated flow capacity of 360 cfm. A maximum of four sterilizers can be simultaneously discharged operationally at Cook via SCV.

Chamber Exhaust Vents (CEV, or Back vents) from Sterilizers S-1 through S-7 are controlled by a single dedicated dry bed reactor with a minimum control (removal) efficiency of 99%. The back vent exhaust from Sterilizers S-8 and S-9 are currently exhausted without emissions controls pursuant to the current Cook's FESOP provisions.

Aeration Room Vents (ARV) are initially directed to a second wet acid pre-scrubber (designated Aeration Scrubber) to remove the bulk of the ethylene oxide prior to passing the exhaust through a series of three (3) dry bed reactors which are ducted in parallel. The minimum control (removal) efficiency of this process train, likewise, is 99%.

Table 1
Current Emissions Control Requirements - Ellettsville North

Source	Control System	EO Control Efficiency
Sterilization Chamber (Vacuum) Vent	Wet Scrubber	At least 99% reduction
Sterilization Chamber Exhaust Vent (Back vent)	DR-490 Dry Bed (S1-S7 Only)	99% reduction for S1-S7 Uncontrolled for S8-S9
Product Transfer	No Control	0% reduction
Aeration Room Vent	Wet Scrubber/Dry Bed Reactors	At least 99% reduction

II. FRACTIONAL EMISSIONS AND EMISSIONS REQUIREMENTS BY SOURCE

A. Emissions by Source per Current FESOP

EO emissions points associated with Cook's operations, as detailed within the Technical Support Document for FESOP F105-32055-00030, are as follows:

Table 2
Fractional Emissions by Source - Ellettsville North

Source	Stack Vent Identification	Fraction of EO Usage
Sterilization Chamber Vents	PS01	0.9500 (95.00%)
Back Vents	SV01	0.0035 (0.35%)
Product Transfer	-	0.0021 (0.21%)
Aeration	HV01	0.0444 (4.44%)

B. Existing Maximum Controlled Emissions per Current FESOP

Annual maximum controlled emissions associated with Cook Sterilization Operations is provided within the permit renewal application for FESOP No. 105-32055-00030 submitted to IDEM on November 21, 2018. The following maximum controlled emissions assumes a minimum control efficiency of 99%, where applicable, and fractional EO usage by source from Table 2:

Table 3
Current Maximum Controlled Emissions by Source & Facility

Source	Sterilizers S1-S7		Sterilizers S8-S9	
	lbs/year	Tons/year	lbs/year	tons/year
Sterilization Chamber Vents	720	0.360	456.7	0.228
Back Vents	2.6	0.001	168.00	0.084
Product Transfer	156	0.078	101.00	0.051
Aeration	33.4	0.017	21.35	0.011
Total Facility	**912**	**0.46**	**747.1**	**0.37**

III. PROPOSED ADMINISTRATIVE AMMENDMENT AND AMENDED EMISSIONS

A. Proposed Chamber Exhaust Vent Control Equipment

Cook has evaluated the existing dry bed reactor used for emissions reduction of the chamber exhaust vents for Sterilizers S1-S7. It has been determined that there is insufficient capacity in the current dry bed reactor to control additional emissions from Sterilizer S8 & S9 back vents, and, accordingly, Cook has decided to voluntarily install three additional dry bed reactors at Ellettsville North to control the back vent emissions from Sterilizers S8 & S9. The proposed Administrative Amendment implements three DR-490 dry bed units in parallel with a minimum reduction efficiency of 99% as shown below:

Preliminary design plans indicating the location of the proposed dry beds along with associated ductwork are provided within Attachment F and specification sheets for the Safe Cell II Dry Bed Units are provided as Attachment E. An updated Process Flow Diagram for the proposed Emissions Control System is provided as Attachment C.

Control System Operating Principles

Advanced Air Technologies, Inc. of Corunna, MI manufactured all of the emissions control equipment currently in operation at Ellettsville North. The three (3) proposed dry bed reactors are equivalent Safe Cell II systems, Model No. DR-490A, designated as Exhaust Vent Reactor A, B and C.

The operating principle of a Dry Bed Reactor is Solid-Phase Reaction, a chemical reaction where the ethylene oxide gas contacts and reacts with a solid. Ethylene oxide gas molecules contact the crystallized solid and react with active sites distributed throughout the solid

matrix. The solid is crystallized in order to increase the surface area to volume ratio of the solid and enhance diffusion of gases through the porous matrix.

The control mechanism of the Dry Bed Reactor is a true chemical reaction rather than a physical phenomenon such as adsorption. The gas stream containing ethylene oxide is introduced into the vessel and reacts with the crystallized bed as it proceeds. Upon exiting the bed, the gas stream contains non-detectable levels of ethylene oxide.

Each back vent control Dry Bed Reactor is rated at 2,000 cfm. Accordingly, the proposed design implements a Series 20 General Industrial radial blower with a 6,000 cfm rating mounted at the roof of the facility. Stacks CEV01 and CEV02 currently associated with Sterilizers S8 & S9 CEV emissions will be disengaged. A single new stack to be designated as SV02 is proposed to route emissions from the dry bed units to the atmosphere. The locations of existing stacks and the proposed new stack are shown in Attachment C.

Equivalent Cycle Monitoring

Upon reaching a bed capacity of 360 pounds of ethylene oxide, the manufacturer's guaranteed performance of the dry bed reactor is assumed to drop below 99% removal efficiency and the bed material will have to be removed and replaced with fresh reactant.

The number of equivalent sterilization cycles from the three non-regenerable dry bed reactors controlling ethylene oxide emissions from the two chamber exhaust vents (back vents) for units S8 and S9 will be monitored and recorded while the beds are in service. A record of the total sterilization cycle runs for sterilizer units S8 through S9 shall be used to convert equivalent cycles.

Equivalent Sterilization Cycles

Current facility operations implement a charge density of [redacted] for Sterilizer Chambers S8 & S9, which is equivalent to [redacted]. of EO per cubic ft. Upon reaching 6,636 equivalent sterilization cycles for Sterilizer Chambers S8 & S9 combined, the bed material will be replaced with fresh reactant as calculated below:

[redacted]

B. Amended Facility Emissions

Annual maximum controlled emissions associated with Cook Sterilization Operations after implementing 99% emissions control for the Sterilizer S8 & S9 back vents are as follows:

Table 4
Amended Maximum Controlled Emissions by Source & Facility

Source	Sterilizers S1-S7		Sterilizers S8-S9	
	lbs/year	Tons/year	lbs/year	tons/year
Sterilization Chamber Vents	720	0.360	456.70	0.228
Back Vents	2.6	0.001	1.68	0.001
Product Transfer	156	0.078	101.00	0.051
Aeration	33.4	0.017	21.35	0.011
Total Facility	**912**	**0.46**	**580.8**	**0.29**

After implementing the proposed amendment with a minimum reduction efficiency of 99%, back vent emissions will be reduced from the current 168 pounds per year to approximately 1.68 pounds annually.

IV. ADMINISTRATIVE AMENDMENT SUMMARY

A. Cook has elected to achieve further reductions in its facility EO emissions, and, therefore, is providing this Administrative Amendment to voluntarily install emissions controls for the chamber exhaust vents associated with Sterilizer S8 & Sterilizer S9.

B. Cook has proposed the installation of three new DR-490 dry beds in parallel with sufficient capacity to handle CEV emissions from Sterilizers S8 & S9 with a minimum removal efficiency of 99%. Cut sheets for the proposed units are provided in Attachment E.

C. A Series 20 General Industrial radial blower from the New York Blower Company with a 6,000 cfm rating is proposed to draw emissions with negative pressure through the three dry bed units, each rated at 2,000 CFM. Specification sheets for the proposed blower are provided in Attachment E.

D. Stacks CEV01 and CEV02 currently associated with Sterilizers S8 & S9 CEV emissions are to be disengaged. A single new stack designated as SV02 is proposed to route emissions from the new dry bed units to the atmosphere.

E. Upon reaching 6,636 equivalent sterilization cycles for Sterilizers S8 & S9 combined, based on the manufacturer's guaranteed bed capacity of 360 pounds of ethylene oxide per unit, the bed material will have to be removed and replaced with fresh reactant.

F. No modifications are proposed to existing SCV emissions controls for Sterilizers S1-S9 or the CEV emissions controls for Sterilizers S1-S7.

G. Implementation of the emissions control equipment as detailed herein will reduce annual facility emissions by 168 pounds.

Attachment B-1

Revised Permit Language for FESOP Section A

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary medical device manufacturing and sterilization operation.

Source Address:	6330 North Matthews Drive, Ellettsville, Indiana 47429
General Source Phone Number:	(800) 468-1379
SIC Code:	3841(Surgical and Medical Instruments and Apparatus)
County Location:	Monroe
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

(a) Seven (7) ethylene oxide sterilization chambers, identified as S1 through S7, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, all exhausting to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01, and with chamber exhaust vents (back vents) exhausting to one (1) single non-regenerable dry bed reactor which exhausts through one (1) stack, identified as SV01. Sterilization chambers S1 through S6 were constructed in 1998 and sterilization chamber S7 was constructed in 2004;

(b) Two (2) ethylene oxide sterilization chambers, identified as S8 and S9, approved for construction in 2012, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, each exhausting through a vacuum pump to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01; and with S8 and S9 chamber exhaust vents (back vents) exhausting to three (3) non-regenerable dry bed reactors, which exhausts through one (1) stack, identified as SV02~~Stacks CEV01 and CEV02, respectively, using no control~~;

(c) Fourteen (14) aeration rooms, identified as HC1 through HC14, all constructed in 1998, of which zero (0) to a maximum of six (6) can exhaust through one (1) wet acid pre-scrubber and three (3) dry bed reactors (in parallel), with the remaining units exhausting solely through the three (3) dry bed reactors (in parallel), all of which exhaust through one (1) stack, identified as HV01; and

Under 40 CFR 63, Subpart O, emission units (a), (b), and (c) listed above are considered affected facilities. [40 CFR 63, Subpart O][326 IAC 20-5]

(d) Miscellaneous cleaning with isopropyl alcohol (IPA).

(e) One (1) diesel-fired emergency generator, identified as Unit #1, installed on July 31, 2003 and approved for construction in 2010, with a maximum capacity of 1850 hp, with emissions uncontrolled, and exhausting to the atmosphere.

This unit is considered an existing affected facility under 40 CFR 63, Subpart ZZZZ.

(f) One (1) diesel-fired emergency generator, identified as Unit #2, installed on November 19, 2003 and approved for construction in 2010, with a maximum capacity of 2922 hp, with emissions uncontrolled, and exhausting to the atmosphere.

This unit is considered an existing affected facility under 40 CFR 63, Subpart ZZZZ.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

(a) One (1) manual plastic tubing and metal wiring slip coating operation, consisting of five trays using a maximum total of 0.033 gallons of coating per hour, exhausting through one (1) stack, identified as E07;

(b) The following storage containers:

(1) nine (9) 100% ethylene oxide storage cylinders with a maximum storage capacity of 400 pounds of ethylene oxide each (3,600 pounds total). These are portable cylinders that will be connected to the sterilization process;

(2) nine (9) 100% ethylene oxide storage cylinders each with a maximum storage capacity of 400 pounds of ethylene oxide on standby for connection to the sterilization process as cylinders are emptied;

(3) up to four (4) additional 100% ethylene oxide storage cylinders each with a maximum storage capacity of 400 pounds of ethylene oxide to be stored on site;

(c) Three (3) liquor storage tanks, identified as Tanks A, B, and C, each with a working storage capacity of 5,870 gallons, all venting to the wet acid pre-scrubber, exhausting through one (1) stack, identified as HV01;

(d) Gluing, heat forming, tapering, marking and printing operations associated with manufacturing activities and product assembly, exhausting through building exhausts and one (1) stack, identified as S10;

(e) Natural gas fired combustion sources with a total heat input of 20.45 MMBtu per hour, including the following:

(1) One natural gas-fired boiler, identified as C238-F, constructed in 2000, with a maximum heat input capacity of 0.45 MMBtu per hour;

(2) One natural gas-fired boiler, identified as C240-F, constructed in 2003, with a maximum heat input capacity of 1.26 MMBtu per hour;

(3) One natural gas-fired boiler, identified as C241-F, constructed in 2003, with a maximum heat input capacity of 2.1349 MMBtu per hour;

(4) One natural gas-fired boiler, identified as C242-F, constructed in 2003, with a maximum heat input capacity of 2.1349 MMBtu per hour;

(5) One natural gas-fired boiler, identified as C239-F, constructed in 2004, with a maximum heat input capacity of 1.26 MMBtu per hour;

(6) One natural gas-fired boiler, identified as C246-F, constructed in 2004, with a

Attachment B-2

Revised Permit Language for FESOP Section D

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) Seven (7) ethylene oxide sterilization chambers, identified as S1 through S7, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, all exhausting to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01, and with chamber exhaust vents (back vents) exhausting to one (1) single non-regenerable dry bed reactor which exhausts through one (1) stack, identified as SV01. Sterilization chambers S1 through S6 were constructed in 1998 and sterilization chamber S7 was constructed in 2004;

(b) Two (2) ethylene oxide sterilization chambers, identified as S8 and S9, approved for construction in 2012, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, each exhausting through a vacuum pump to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01; and with S8 and S9 chamber exhaust vents (back vents) exhausting to three (3) non-regenerable dry bed reactors, which exhausts through one (1) stack, identified as SV02~~Stacks CEV01 and CEV02, respectively, using no control~~;

(c) Fourteen (14) aeration rooms, identified as HC1 through HC14, all constructed in 1998, of which zero (0) to a maximum of six (6) can exhaust through one (1) wet acid pre-scrubber and three (3) dry bed reactors (in parallel), with the remaining units exhausting solely through the three (3) dry bed reactors (in parallel), all of which exhaust through one (1) stack, identified as HV01; and

Under 40 CFR 63, Subpart O, emission units (a), (b), and (c) listed above are considered affected facilities. [40 CFR 63, Subpart O][326 IAC 20-5]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

~~D.1.1 Ethylene Oxide [326 IAC 8-1-6]~~

Pursuant to FESOP F105-8436-00030, issued on February 16, 1998, and 326 IAC 8-1-6, the following control technology will also serve as the Best Available Control Technology (BACT) for the sterilization operations S1 through S7. The control technology used to comply with the requirements of 40 CFR 63.360 through 63.367, which apply to the sterilization process, in addition to the following:

(a) A single nonregenerable dry bed reactor to reduce ethylene oxide emissions to a maximum concentration of 1 ppmv or by at least 99 percent, whichever is less stringent, to control the seven (7) sterilization chamber exhaust vents, identified as units S1 through S7.

(b) A wet acid pre-scrubber with three (3) dry bed reactors (in parallel) with a control efficiency of 99% to control emissions from the fourteen (14) aeration rooms.

The requirements listed above will control ethylene oxide emissions from the sterilization operations S1 through S7 such that ethylene oxide emissions from S1 through S7 shall not exceed 0.38 tons per year.

Since the requirement to operate the dry bed reactor controlling the emissions from the sterilization chamber exhaust vents (back vents) in the original FESOP was also part of the requirements to satisfy 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), the source is still required to operate the dry bed reactor controlling emissions from the sterilization chamber exhaust vents (back vents) for units S1 through S7 in order to comply with 326 IAC 8-1-6,

even though a control for emissions from back vents is not required by NESHAP Subpart O [40 CFR 63.36]; the source is also required to operate the primary wet acid scrubber to control emissions from the sterilization chambers, as well as the wet acid pre-scrubber and three (3) dry bed reactors (in parallel) to control emissions from the fourteen (14) aerations rooms in order to comply with 326 IAC 8-1-6 (New Facilities, General Reduction Requirements).

Note: ~~The source will not be required to operate the dry bed reactor to control emissions from the sterilization chamber exhaust vents (back vents) from the two (2) sterilizers S8 and S9,~~ Sterilizers S8 and S9 were approved for construction in 2012 and ~~. S8 and S9~~ are not subject to the requirements of 326 IAC 8-1-6. However, the Permittee has voluntarily elected to install three (3) non-regenerable dry bed reactors to control emissions from the sterilization chamber exhaust vents (back vents) from the two (2) sterilizers S8 and S9.

D.1.2 Hazardous Air Pollutants (HAPs) [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8, the total ethylene oxide emissions from the nine (9) ethylene oxide sterilization chambers and the fourteen (14) aeration rooms shall be less than 9.40 tons per twelve (12) consecutive month period, total, with compliance determined at the end of each month

Compliance with the above limit, combined with the potential to emit ethylene oxide from other emission units at the source, shall limit the ethylene oxide from the entire source to less than 10 tons per twelve (12) consecutive month period, total HAPs to less than twenty-five (25) tons per 12 consecutive month period, and render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

D.1.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for this facility and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.4 Ethylene Oxide Control [326 IAC 8-1-6] [326 IAC 2-8-4]

(a) In order to comply with Conditions D.1.1, and D.1.2, the primary wet acid scrubber and the single non-regenerable dry bed reactor shall be in operation and control emissions from the seven (7) ethylene oxide sterilization chambers S1 through S7 at all times the ethylene oxide sterilization chambers are in operation.

(b) In order to comply with Conditions D.1.1, and D.1.2, the primary wet acid scrubber shall be in operation and control emissions from the two (2) ethylene oxide sterilization chambers S8 and S9 at all times the ethylene oxide sterilization chambers are in operation.

(c) In order to comply with Conditions D.1.1, and D.1.2, the three (3) dry bed reactors with or without the wet acid pre-scrubber shall be in operation and control emissions from the fourteen (14) aeration rooms at all times the fourteen (14) aeration rooms are in operation.

D.1.5 Testing Requirements [326 IAC 2-8-5(a)(1)] [326 IAC 2-1.1-11] [40 CFR Part 63, Subpart O]

In order to demonstrate the compliance status with Condition D.1.1, Condition D.1.2, and Condition E.1.2, not later than 180 days after the startup of sterilization chambers S8 and S9, the Permittee shall perform a performance test on each of the following control devices:

(a) The one (1) primary wet acid scrubber, exhausting to stack PS01, controlling ethylene oxide emissions from the nine (9) sterilization chamber S1 through S9;

Attachment B-3

Revised Permit Language for FESOP Section E

SECTION E.1 SOURCE OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) Seven (7) ethylene oxide sterilization chambers, identified as S1 through S7, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, all exhausting to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01, and with chamber exhaust vents (back vents) exhausting to one (1) single non-regenerable dry bed reactor which exhausts through one (1) stack, identified as SV01. Sterilization chambers S1 through S6 were constructed in 1998 and sterilization chamber S7 was constructed in 2004;

(b) Two (2) ethylene oxide sterilization chambers, identified as S8 and S9, approved for construction in 2012, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, each exhausting through a vacuum pump to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01; and with S8 and S9 chamber exhaust vents (back vents) exhausting to three (3) non-regenerable dry bed reactors, which exhausts through one (1) stack, identified as SV02~~Stacks CEV01 and CEV02, respectively, using no control~~;

(c) Fourteen (14) aeration rooms, identified as HC1 through HC14, all constructed in 1998, of which zero (0) to a maximum of six (6) can exhaust through one (1) wet acid pre-scrubber and three (3) dry bed reactors (in parallel), with the remaining units exhausting solely through the three (3) dry bed reactors (in parallel), all of which exhaust through one (1) stack, identified as HV01; and

Under 40 CFR 63, Subpart O, emission units (a), (b), and (c) listed above are considered affected facilities. [40 CFR 63, Subpart O][326 IAC 20-5]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements

E.1.1 General Provisions Relating to NESHAP O [326 IAC 20-1][40 CFR Part 63, Subpart A]

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facilities described in this section except as otherwise specified in 40 CFR 63, Subpart O.

E.1.2 Ethylene Oxide Emissions Standards for Sterilization Facilities NESHAP [40 CFR Part 63, Subpart O] [326 IAC 20-5]

The Permittee which owns or operates stationary ethylene oxide sterilization facility at an area source of HAP emissions shall comply with the following provisions of 40 CFR Part 63, Subpart O as follows:

(1) 40 CFR 63.360,
(2) 40 CFR 63.361,
(3) 40 CFR 63.362,
(4) 40 CFR 63.363(a), (b)(1), (b)(2), (c), (e), (f),
(5) 40 CFR 63.364(a), (b), (d), (e),
(6) 40 CFR 63.365,
(7) 40 CFR 63.366,
(8) 40 CFR 63.367,
(9) 40 CFR 63.368.

Attachment B-4

Revised Permit Language for Technical Support Document

I. AMENDED EMISSIONS CALCULATIONS & TABLES

B. Revisions to the Technical Support Document (TSD)

1. ***Appendix A to the TSD*** – Potential to Emit references shall be revised to include the updated Hazardous Air Pollutant numbers for S8 through S9. The Controlled Maximum Emissions will be amended from 0.37 tons per year to 0.29 tons per year.

2. ***Appendix A to the TSD*** - Modify highlighted sections of the following Potential Emission Calculations for S8 through S9:

Existing Sterilizer Chamber (S8 through S9)	Stack Vent Identification number	Fraction of EO Usage	Maximum Uncontrolled Emissions (lbs/yr)	Control Efficiency (%)	Maximum Controlled Emissions (lbs/yr)
Sterilization Chamber (Vacuum) Vents	PS01	0.9500	45,671.0	99.00%	456.71
Sterilization Chamber Exhaust Vents (Back Vents)	SV01	0.0035	168.0	**99.00%**	**1.68**
Product Transfer	SV01	0.0021	101.0	0%	101.00
Aeration (HC1 through HC14)	HV01	0.0444	2,135.0	99.00%	21.35
Total (lbs/yr)	-	1.00	48,075.00	-	**580.74**
Total (tons/yr)	-	-	24.4	-	**0.29**

3. ***Appendix A to the TSD*** - Modify Potential to Emit for Maximum Controlled Emissions for the entire facility to 1,492.74 pounds per year (0.75 tons per year).

Attachment C

Proposed Process Flow Diagram

Confidential Business Information

Attachment D

Existing and Proposed Stack Location Plan (24” x 36”)

Confidential Business Information

[redacted]

Attachment E

Safe Cell II DR490 Dry Bed & Blower Specification Sheets

Full Size 24" x 36"

www.advairtech.com
ADVANCED AIR TECHNOLOGIES, INC.
300 Earl Sleeseman Drive
Corunna, MI 48817
(Michigan USA)
PH: 989-743-5544
FX: 989-743-5624
TF: 800-295-6583
ISO 9001 : 2008 Certified

SAFE-CELL II to Include DR50 & DR490

Dry Reactant - Principle of Operation

Principle of Operation

The Safe-Cell II utilizes a proprietary technology for chemically combining Ethylene Oxide to the surfaces of a dry reactant media. This process, known as **chemisorption,** is extremely effective between Ethylene Oxide and the Safe-Cell II media (sulfonated copolymer of styrene and divinylbenzene in the hydrogen form). The Safe-Cell II consists of a bed of the tiny resin beads through which air containing Ethylene Oxide is made to flow. The Ethylene Oxide diffuses out of the air to the surface of the reactant, where it becomes rapidly and permanently chemically bonded, forming a new surface polymer. The clean air then exits the unit.

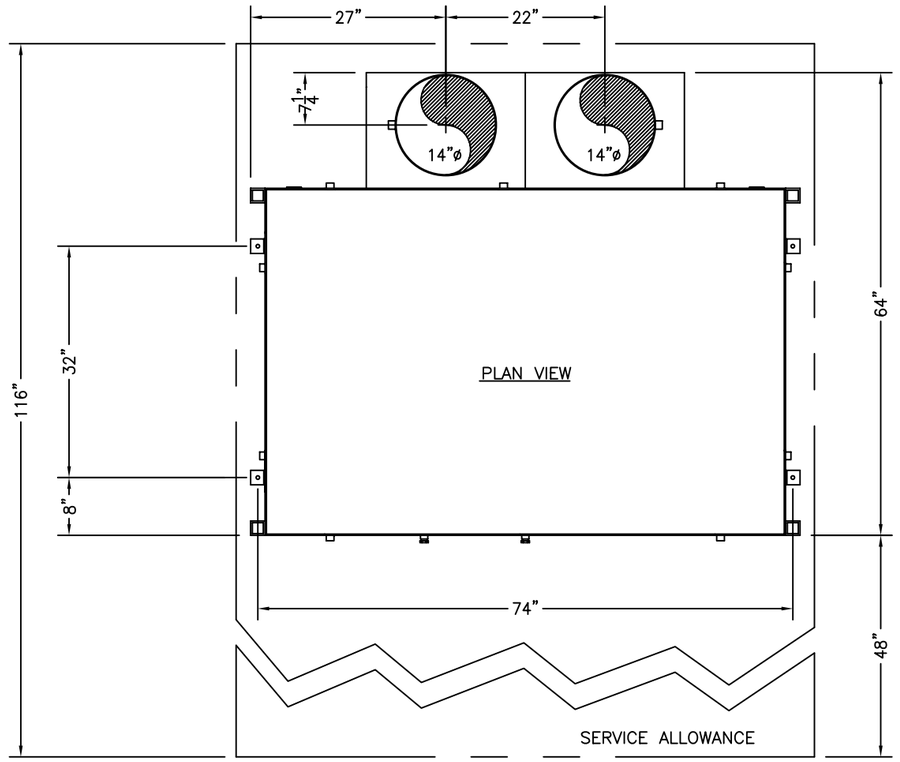
The reactant media has capacity to react with approximately 33% of its weight in Ethylene Oxide, after which the media must be changed out. Because of the irreversibility of the surface polymerization reaction, the media is not regenerable by any known common means such as desorption or soaking in acid or base.

Reactant Change-Out

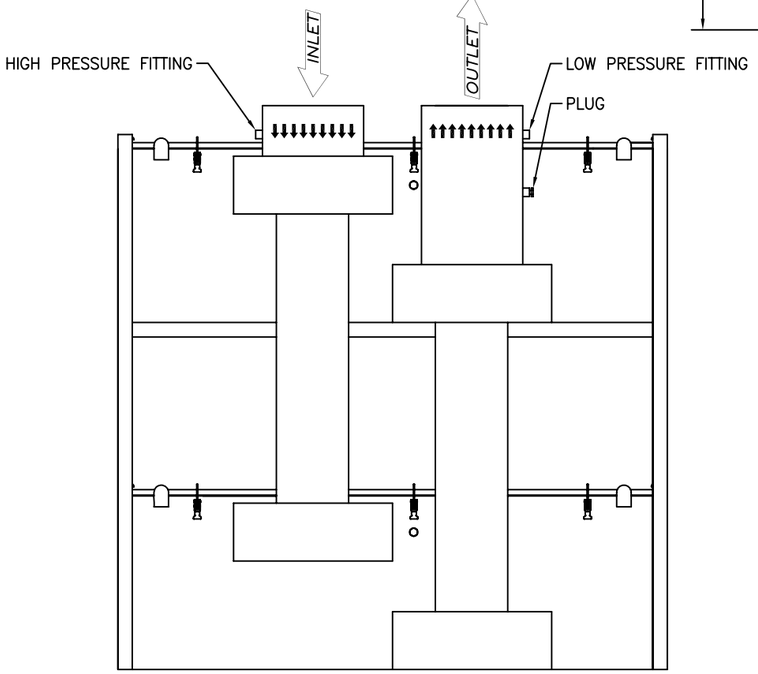
The spent media must be removed prior to the point of saturation and replaced with fresh media. Depending on local regulation, the spent reactant may be sent to a municipal landfill, as the EPA does not consider the spent media a hazardous waste. The listing of Ethylene Oxide in 40 CFR 261.33 (No. U115) as a hazardous waste does not apply to spent Safe-Cell reactant. This is due to the fact that the reactant is not purchased as a commercial product containing Ethylene Oxide, then discarded with all of the Ethylene Oxide unused, or with only some of it used where it's the sole active ingredient. The spent reactant, furthermore, does not exhibit any hazardous characteristic as detailed in 40 CFR 261.21-261.24, that is, ignitability, corrosiveness, reactivity, and positive TCLP results.

Submitted:

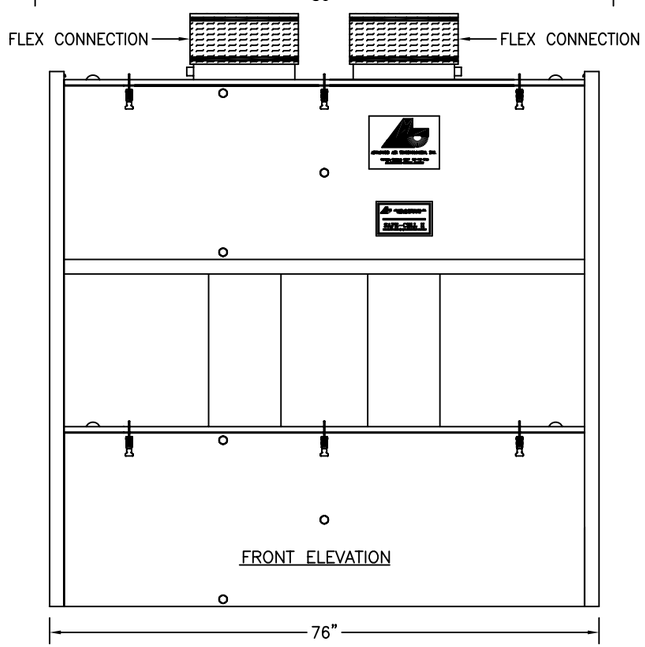
Randal Nicolli, P.E.
AAT Engineering Manager
October 23, 2008



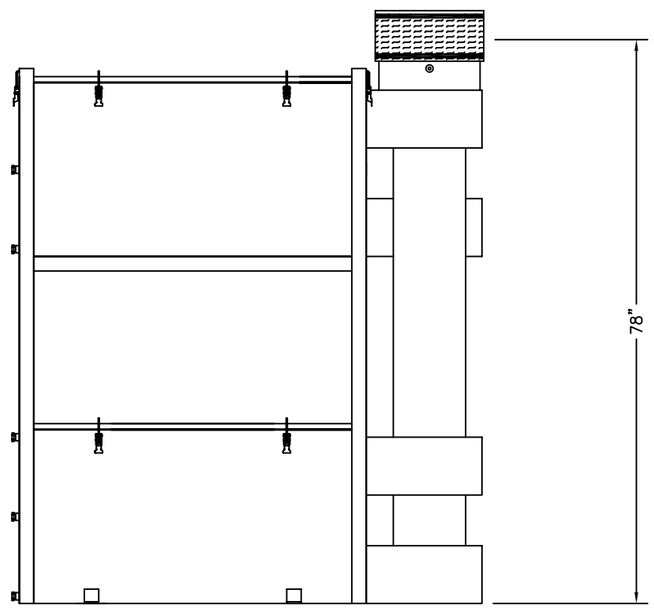
2000 CFM
WEIGHT: 2,200 LBS.



BACK ELEVATION



FRONT ELEVATION



RIGHT SIDE

ADVANCED AIR TECHNOLOGIES, INC.
300 Earl Sleeseman Drive
Corunna, Michigan 48817
ph. 989.743.5544 fax 989.743.5624
AIR POLLUTION CONTROL SYSTEMS

FILE NAME: DR490 Customer Assembly		REV.	DATE:	
JOB NUMBER:	DRAWN BY: FF	REV.	DATE:	
DATE: 03/22/06	P.O. NUMBER:	REV.	DATE:	
SCALE: N/A	APPROVED BY:	REV.	DATE:	

PROJECT TITLE:
DR-490

DRAWING TITLE:
DR-490 A CUSTOMER ASSEMBLY

DWG. NUMBER: 01 REV.

The New York Blower Company
Fan-to-Size
Fan Selection Detail

Fan Design

Product:	Series 20 General Industrial
Type:	Radial
Size:	29
Fan Class:	N/A
Wheel Type:	Radial (shrouded high efficiency w/canted blade: AH/DH) - AH
Wheel Material:	Aluminum
Wheel Weight:	43.0 lb
Wheel WR²:	34.8 lb-ft2
Percent Width:	100%
Percent Diameter:	100.0%
Oulet Area:	1.59 sq. ft.
Options:	None

Axial thrust load is 105.2 lbf.

Calculation Mode: Find Speed

Drive Type:	Belt
Arrangement:	10
Outlet Velocity:	3774 ft/min
Static Efficiency:	70.23%
Total Efficiency:	74.5%
Operating Temp:	120° F
Maximum Temp:	120° F
Maximum Speed: (1)	1995 RPM
Velocity Pressure:	0.793 in wg
Fan Static Pressure:	13 in wg
Fan Total Pressure:	13.8 in wg
Altitude:	696 ft

Conditions

	Flow	Pressure	Power	Speed	Speed Limit (2)	Density	Altitude	Inlet Temp.
	ACFM	in wg (FSP)	bhp	rpm	rpm	lb/ft3	ft	f
Operating	6000	13	17.5	1769	1995	0.0669	696	120
Cold	6000	14.2	19.2	1769	1995	0.0732	696	70
Standard	6000	14.6	19.6	1769	1995	0.0750	0	70

(1) Speed Limit at Maximum Temperature (2) Speed Limit at indicated Inlet Temperature

My Sales Representative

Industrial Equipment of Detroit, Inc.
6020 W Maple Road Suite 504 West Bloomfield, MI 48322, USA
(P) 248-851-6420, (F) 248-851-6694
sales@indust-equip.com

The New York Blower Company certifies that the Series 20 General Industrial fan is licensed to bear the AMCA Air Performance Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings program. AMCA Licensed for Air Performance without Appurtenances (Accessories). Power HP (bhp) excludes drives. Performance certified is for installation type: D - ducted inlet, ducted outlet.

Sound Power Level Ratings

Sound power and sound pressure levels are shown in decibels. (Power levels reference 10-12 watts and pressure levels reference 2x10-7 microbar.) Sound power ratings are calculated per AMCA Standard 301. Ratings do not include the effects of duct end correction. Sound levels do not include motors or drives. Pressure levels are estimated. A-weighing is per ANSI S.1.42-2001 (R2011).

Fan Sound

Center Freq (Hz)	63	125	250	500	1000	2000	4000	8000	Overall
Octave	1	2	3	4	5	6	7	8	
Inlet Total Power, dB	89	96	97	95	95	93	90	86	**103**
A-Weighting	-26.2	-16.1	-8.6	-3.2	0	1.2	1	-1.1	
Convert To Pressure	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	
Inlet Total Pressure, dBA	51	68	77	80	84	83	80	73	**88**
Outlet Total Power, dB	89	96	97	95	95	93	90	86	**103**
A-Weighting	-26.2	-16.1	-8.6	-3.2	0	1.2	1	-1.1	
Convert To Pressure	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	
Outlet Total Pressure, dBA	51	68	77	80	84	83	80	73	**88**
Fan Total Power, dB	92	99	100	98	98	96	93	89	**106**
Housing Radiated Noise	-5	-8	-12	-14	-12	-12	-13	-14	
A-Weighting	-26.2	-16.1	-8.6	-3.2	0	1.2	1	-1.1	
Convert To Pressure	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	
Fan Total Pressure, dBA	49	63	68	69	75	74	70	62	**79**

Directivity/Reflection is a hemispherical radiation (Q = 2); Distance is 5 ft.
At 5 ft, the estimated sound pressure level:

1. outside the fan due to an open inlet OR outlet is 88 dBA.
2. housing radiated noise when inlet and outlet are ducted away from listening point is 79 dBA.

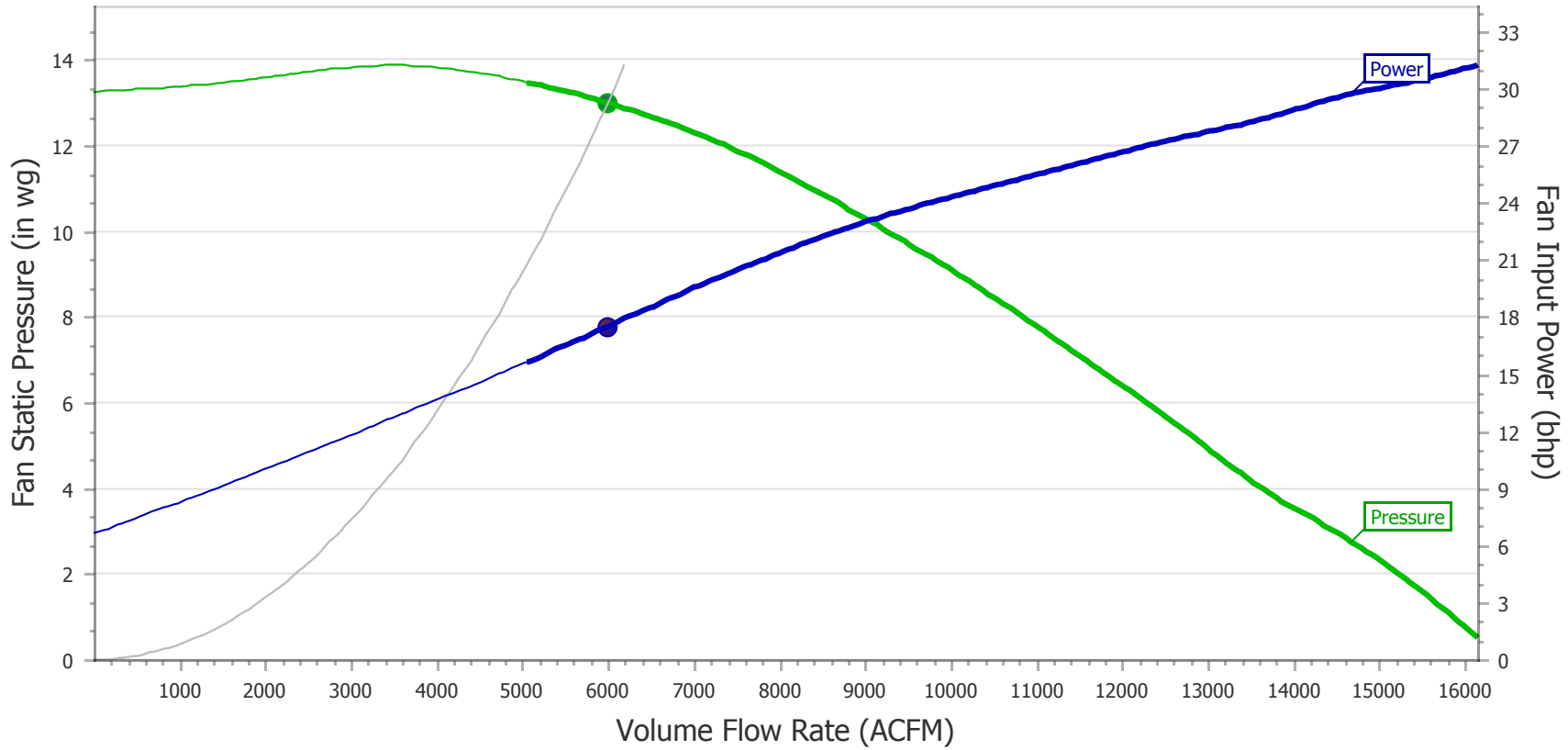
The sound power and pressure levels displayed here are estimated values based on tests and ratings conducted in accordance with AMCA standards 300 and 301. AMCA does not certify any of these ratings. See the Policy on Sound for more details.

The New York Blower Company
Fan-to-Size
Fan Selection Detail

Product: Series 20 General Industrial
Material: Aluminum
Fan Size: 29
Arrangement: 10
Wheel Type: Radial (shrouded high efficiency w/canted blade: AH/DH) - AH
Options: None

Volume Flow Rate: 6000 ACFM
Fan Static Pressure: 13 in wg
Speed: 1769 rpm
Power: 17.5 bhp

Inlet Temperature: 120 °f
Altitude: 696 ft
Density: 0.0669 lb/ft3
Outlet Velocity: 3774 ft/min



AMCA Licensed for Air Performance without Appurtenances (Accessories). Power HP (bhp) excludes drives. Performance certified is for installation type: D - ducted inlet, ducted outlet.

Cook114_Non-CBI_00364

Attachment F

Proposed Design Plan Set (24” x 36”)

Confidential Business Information